

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.**

Application Serial Number: 09/319,156C  
Source: 1FW16  
Date Processed by STIC: 11/10/05

# ***ENTERED***



IFW16

## RAW SEQUENCE LISTING

DATE: 11/10/2005

PATENT APPLICATION: US/09/319,156C

TIME: 13:04:56

Input Set : A:\103514-mlm-11-05.ST25.txt

Output Set: N:\CRF4\11102005\I319156C.raw

3 <110> APPLICANT: PARANHOS-BACCALA, Glaucia  
 4 KOMURIAN-PRADEL, Florence  
 5 BEDIN, Frederic  
 6 SODOYER, Mireille  
 7 OTT, Catherine  
 8 MALLET, Francois  
 9 PERRON, Herve  
 10 MANDRAND, Bernard  
 12 <120> TITLE OF INVENTION: RETROVIRAL NUCLEIC MATERIAL AND NUCLEOTIDE FRAGMENTS, IN  
 13 PARTICULAR ASSOCIATED WITH MULTIPLE SCLEROSIS AND/OR RHEUMATOID  
 14 ARTHRITIS, FOR DIAGNOSTIC, PROPHYLACTIC AND THERAPEUTIC USES  
 16 <130> FILE REFERENCE: 103514  
 18 <140> CURRENT APPLICATION NUMBER: US/09/319,156C  
 19 <141> CURRENT FILING DATE: 1999-11-02  
 21 <150> PRIOR APPLICATION NUMBER: PCT/FR98/01460  
 22 <151> PRIOR FILING DATE: 1998-07-07  
 24 <150> PRIOR APPLICATION NUMBER: FR/97/08816  
 25 <151> PRIOR FILING DATE: 1997-07-07  
 27 <160> NUMBER OF SEQ ID NOS: 45  
 29 <170> SOFTWARE: PatentIn version 3.2  
 31 <210> SEQ ID NO: 1  
 32 <211> LENGTH: 34  
 33 <212> TYPE: DNA  
 34 <213> ORGANISM: MSRV  
 36 <400> SEQUENCE: 1  
 37 gactcgctgc agatcgattt tttttttttt tttt 34  
 40 <210> SEQ ID NO: 2  
 41 <211> LENGTH: 30  
 42 <212> TYPE: DNA  
 43 <213> ORGANISM: MSRV  
 45 <400> SEQUENCE: 2  
 46 gccatcaagc cacccaagaa ctcttaactt 30  
 49 <210> SEQ ID NO: 3  
 50 <211> LENGTH: 30  
 51 <212> TYPE: DNA  
 52 <213> ORGANISM: MSRV  
 54 <400> SEQUENCE: 3  
 55 ccaatagcca gaccattata tacactaatt 30  
 58 <210> SEQ ID NO: 4  
 59 <211> LENGTH: 310  
 60 <212> TYPE: DNA  
 61 <213> ORGANISM: MSRV  
 63 <400> SEQUENCE: 4

## RAW SEQUENCE LISTING

DATE: 11/10/2005

PATENT APPLICATION: US/09/319,156C

TIME: 13:04:56

Input Set : A:\103514-mlm-11-05.ST25.txt

Output Set: N:\CRF4\11102005\I319156C.raw

```

64 gcttatagaa ggacccttag tatggggtaa tcccctctgg gaaaccaagc cccagtactc      60
66 agcaggaaaa atagaatagg aaacctcaca aggacatact ttcctcccct ccagatggct      120
68 agccactgag gaaggaaaaa tactttcacc tgcagctaac caacagaaat tacttaaaac      180
70 ccttcaccaa accttcact taggcattga tagcacccat cagatggcca aattattatt      240
72 tactggacca ggccttttca aaactatcaa gaagatagtc aggggctgtg aagtgtgcca      300
74 aagaaataat                                     310

77 <210> SEQ ID NO: 5
78 <211> LENGTH: 103
79 <212> TYPE: PRT
80 <213> ORGANISM: MSRV
83 <220> FEATURE:
84 <221> NAME/KEY: misc_feature
85 <222> LOCATION: (26)..(26)
86 <223> OTHER INFORMATION: Xaa = any amino acid
88 <400> SEQUENCE: 5
90 Leu Ile Glu Gly Pro Leu Val Trp Gly Asn Pro Leu Trp Glu Thr Lys
91 1          5          10          15
W--> 94 Pro Gln Tyr Ser Ala Gly Lys Ile Glu Xaa Glu Thr Ser Gln Gly His
95          20          25          30
98 Thr Phe Leu Pro Ser Arg Trp Leu Ala Thr Glu Glu Gly Lys Ile Leu
99          35          40          45
102 Ser Pro Ala Ala Asn Gln Gln Lys Leu Leu Lys Thr Leu His Gln Thr
103          50          55          60
106 Phe His Leu Gly Ile Asp Ser Thr His Gln Met Ala Lys Leu Leu Phe
107 65          70          75          80
110 Thr Gly Pro Gly Leu Phe Lys Thr Ile Lys Lys Ile Val Arg Gly Cys
111          85          90          95
114 Glu Val Cys Gln Arg Asn Asn
115          100
118 <210> SEQ ID NO: 6
119 <211> LENGTH: 635
120 <212> TYPE: DNA
121 <213> ORGANISM: MSRV
123 <400> SEQUENCE: 6
124 ccctgtatct ttaacctcct tgttaagttt gtctcttcca gaatcaaaac tgtaaaacta      60
126 caaattgttc ttcaaattga gcaccagatg gagtccatga ctaagatcca ccgtggaccc      120
128 ctggaccggc ctgctagccc atgctccgat gttaatgaca ttgaaggcac ccctcccagag      180
130 gaaatctcaa ctgcacaacc cctactatgc cccaattcag cggaagcag ttagagcggt      240
132 catcagccaa cctcccacac agcacttggg ttttctgtt gagagggggg actgagagac      300
134 aggactagct ggatttccta ggccaacgaa gaatccctaa gcctagctgg gaaggtgact      360
136 gcatccacct ctaaactatg ggcttgcaac ttagctcaca cccgaccaat cagagagctc      420
138 actaaaatgc taattaggca aaaataggag gtaaagaaat agccaatcat ctattgctg      480
140 agagcacagc gggagggaca aggatcgagg tataaaccca ggcattcgag ccggcaacgg      540
142 caacccccct tgggtccctt cctttgtat gggcgctctg ttttactct atttactct      600
144 attaaatctt gcaactgaaa aaaaaaaaaa aaaaaa                                     635
147 <210> SEQ ID NO: 7
148 <211> LENGTH: 77
149 <212> TYPE: PRT
150 <213> ORGANISM: MSRV

```

## RAW SEQUENCE LISTING

DATE: 11/10/2005

PATENT APPLICATION: US/09/319,156C

TIME: 13:04:56

Input Set : A:\103514-mlm-11-05.ST25.txt

Output Set: N:\CRF4\11102005\I319156C.raw

152 &lt;400&gt; SEQUENCE: 7

154 Pro Cys Ile Phe Asn Leu Leu Val Lys Phe Val Ser Ser Arg Ile Lys

155 1 5 10 15

158 Thr Val Lys Leu Gln Ile Val Leu Gln Met Glu His Gln Met Glu Ser

159 20 25 30

162 Met Thr Lys Ile His Arg Gly Pro Leu Asp Arg Pro Ala Ser Pro Cys

163 35 40 45

166 Ser Asp Val Asn Asp Ile Glu Gly Thr Pro Pro Glu Glu Ile Ser Thr

167 50 55 60

170 Ala Gln Pro Leu Leu Cys Pro Asn Ser Ala Gly Ser Ser

171 65 70 75

174 &lt;210&gt; SEQ ID NO: 8

175 &lt;211&gt; LENGTH: 32

176 &lt;212&gt; TYPE: DNA

177 &lt;213&gt; ORGANISM: MSRV

179 &lt;400&gt; SEQUENCE: 8

180 tgggggttcca tttgtaagac catctgtagc tt 32

183 &lt;210&gt; SEQ ID NO: 9

184 &lt;211&gt; LENGTH: 1481

185 &lt;212&gt; TYPE: DNA

186 &lt;213&gt; ORGANISM: MSRV

188 &lt;400&gt; SEQUENCE: 9

189 atggccctcc cttatcatatc ttttctcttt actgttctct taccctcttt cgctctcact 60

191 gcacccctcc catgctgctg tacaaccagt agctcccttt accaagagtt tctatgaaga 120

193 acgcggtctc ctggaaatat tgatgcccc tcatatagga gtttatctaa gggaaactcc 180

195 accttccactg cccacaccca tatgccccgc aactgctata actctgccac tctttgcatg 240

197 catgcaaata ctcattattg gacagggaaa atgattaatc ctagttgtcc tggaggactt 300

199 ggagccactg tctgttggac ttacttcacc cataccagta tgtctgatgg ggggtggaatt 360

201 caaggtcagg caagagaaaa acaagtaaag gaagcaatc cccaactgac ccggggacat 420

203 agcaccctca gccctacaa aggactagtt ctctcaaaac tacatgaaac cctccgtacc 480

205 catactcgcc tgggtgagcct atttaatacc accctcactc ggctccatga ggtctcagcc 540

207 caaaacctca ctaactgttg gatgtgcctc cccctgcact tcaggccata catttcaatc 600

209 cctgttctctg aacaatggaa caacttcagc acagaaataa acaccacttc cgtttttagta 660

211 ggacctcttg tttccaatct ggaaataacc catacctcaa acctcacctg tgtaaaattt 720

213 agcaatacta tagacacaac cagctcccaa tgcacaggt gggtaacacc tcccacacga 780

215 atagtctgcc taccctcagg aatatttttt gtctgtggta cctcagccta tcattgtttg 840

217 aatggctctt cagaatctat gtgcttctct tcattcttag tgccccctat gaccatctac 900

219 actgaacaag atttatacaa tcatgtcgta cctaagcccc acaacaaaag agtaccatt 960

221 ctctcttttg ttatcagagc aggagtgtga ggcagactag gtactggcat tggcagtatc 1020

223 acaacctcta ctcagttcta ctacaaacta tctcaagaaa taaatggtga catggaacag 1080

225 gtcactgact ccttggtcac cttgcaagat caacttaact ccctagcagc agtagtctt 1140

227 caaaatcgaa gagcttttaga cttgctaacc gccaaaagag ggggaacctg tttattttta 1200

229 ggagaagaac gctgttatta tgttaataca tccagaattg tctactgagaa agttaagaa 1260

231 attcgagatc gaatacaatg tagagcagag gagcttcaaa acaccgaacg ctggggcctc 1320

233 ctccagccaat ggatgccttg ggttctcccc ttcttaggac ctctagcagc tctaataattg 1380

235 ttactctctt ttggaccctg tatctttaac ctcttggtta agtttgtctc ttccagaatt 1440

237 gaagctgtaa agctacagat ggtcttataa atggaacccc a 1481

240 &lt;210&gt; SEQ ID NO: 10

241 &lt;211&gt; LENGTH: 493

## RAW SEQUENCE LISTING

DATE: 11/10/2005

PATENT APPLICATION: US/09/319,156C

TIME: 13:04:56

Input Set : A:\103514-mlm-11-05.ST25.txt

Output Set: N:\CRF4\11102005\I319156C.raw

```

242 <212> TYPE: PRT
243 <213> ORGANISM: MSRV
246 <220> FEATURE:
247 <221> NAME/KEY: misc_feature
248 <222> LOCATION: (39)..(39)
249 <223> OTHER INFORMATION: Xaa = any amino acid
251 <400> SEQUENCE: 10
253 Met Ala Leu Pro Tyr His Thr Phe Leu Phe Thr Val Leu Leu Pro Pro
254 1 5 10 15
257 Phe Ala Leu Thr Ala Pro Pro Pro Cys Cys Cys Thr Thr Ser Ser Ser
258 20 25 30
W--> 261 Pro Tyr Gln Glu Phe Leu Xaa Arg Thr Arg Leu Pro Gly Asn Ile Asp
262 35 40 45
265 Ala Pro Ser Tyr Arg Ser Leu Ser Lys Gly Asn Ser Thr Phe Thr Ala
266 50 55 60
269 His Thr His Met Pro Arg Asn Cys Tyr Asn Ser Ala Thr Leu Cys Met
270 65 70 75 80
273 His Ala Asn Thr His Tyr Trp Thr Gly Lys Met Ile Asn Pro Ser Cys
274 85 90 95
277 Pro Gly Gly Leu Gly Ala Thr Val Cys Trp Thr Tyr Phe Thr His Thr
278 100 105 110
281 Ser Met Ser Asp Gly Gly Gly Ile Gln Gly Gln Ala Arg Glu Lys Gln
282 115 120 125
285 Val Lys Glu Ala Ile Ser Gln Leu Thr Arg Gly His Ser Thr Pro Ser
286 130 135 140
289 Pro Tyr Lys Gly Leu Val Leu Ser Lys Leu His Glu Thr Leu Arg Thr
290 145 150 155 160
293 His Thr Arg Leu Val Ser Leu Phe Asn Thr Thr Leu Thr Arg Leu His
294 165 170 175
297 Glu Val Ser Ala Gln Asn Pro Thr Asn Cys Trp Met Cys Leu Pro Leu
298 180 185 190
301 His Phe Arg Pro Tyr Ile Ser Ile Pro Val Pro Glu Gln Trp Asn Asn
302 195 200 205
305 Phe Ser Thr Glu Ile Asn Thr Thr Ser Val Leu Val Gly Pro Leu Val
306 210 215 220
309 Ser Asn Leu Glu Ile Thr His Thr Ser Asn Leu Thr Cys Val Lys Phe
310 225 230 235 240
313 Ser Asn Thr Ile Asp Thr Thr Ser Ser Gln Cys Ile Arg Trp Val Thr
314 245 250 255
317 Pro Pro Thr Arg Ile Val Cys Leu Pro Ser Gly Ile Phe Phe Val Cys
318 260 265 270
321 Gly Thr Ser Ala Tyr His Cys Leu Asn Gly Ser Ser Glu Ser Met Cys
322 275 280 285
325 Phe Leu Ser Phe Leu Val Pro Pro Met Thr Ile Tyr Thr Glu Gln Asp
326 290 295 300
329 Leu Tyr Asn His Val Val Pro Lys Pro His Asn Lys Arg Val Pro Ile
330 305 310 315 320
333 Leu Pro Phe Val Ile Arg Ala Gly Val Leu Gly Arg Leu Gly Thr Gly
334 325 330 335

```

## RAW SEQUENCE LISTING

DATE: 11/10/2005

PATENT APPLICATION: US/09/319,156C

TIME: 13:04:56

Input Set : A:\103514-mlm-11-05.ST25.txt

Output Set: N:\CRF4\11102005\I319156C.raw

```

337 Ile Gly Ser Ile Thr Thr Ser Thr Gln Phe Tyr Tyr Lys Leu Ser Gln
338           340           345           350
341 Glu Ile Asn Gly Asp Met Glu Gln Val Thr Asp Ser Leu Val Thr Leu
342           355           360           365
345 Gln Asp Gln Leu Asn Ser Leu Ala Ala Val Val Leu Gln Asn Arg Arg
346           370           375           380
349 Ala Leu Asp Leu Leu Thr Ala Lys Arg Gly Gly Thr Cys Leu Phe Leu
350 385           390           395           400
353 Gly Glu Glu Arg Cys Tyr Tyr Val Asn Gln Ser Arg Ile Val Thr Glu
354           405           410           415
357 Lys Val Lys Glu Ile Arg Asp Arg Ile Gln Cys Arg Ala Glu Glu Leu
358           420           425           430
361 Gln Asn Thr Glu Arg Trp Gly Leu Leu Ser Gln Trp Met Pro Trp Val
362           435           440           445
365 Leu Pro Phe Leu Gly Pro Leu Ala Ala Leu Ile Leu Leu Leu Leu Phe
366           450           455           460
369 Gly Pro Cys Ile Phe Asn Leu Leu Val Lys Phe Val Ser Ser Arg Ile
370 465           470           475           480
373 Glu Ala Val Lys Leu Gln Met Val Leu Gln Met Glu Pro
374           485           490

```

377 &lt;210&gt; SEQ ID NO: 11

378 &lt;211&gt; LENGTH: 32

379 &lt;212&gt; TYPE: DNA

380 &lt;213&gt; ORGANISM: MSRV

382 &lt;400&gt; SEQUENCE: 11

383 tcaaaatcga agagcttttag acttgctaac cg

32

386 &lt;210&gt; SEQ ID NO: 12

387 &lt;211&gt; LENGTH: 1329

388 &lt;212&gt; TYPE: DNA

389 &lt;213&gt; ORGANISM: MSRV

392 &lt;220&gt; FEATURE:

393 &lt;221&gt; NAME/KEY: misc\_feature

394 &lt;222&gt; LOCATION: (594)..(594)

395 &lt;223&gt; OTHER INFORMATION: n = a, g, c or t/u

397 &lt;220&gt; FEATURE:

398 &lt;221&gt; NAME/KEY: misc\_feature

399 &lt;222&gt; LOCATION: (602)..(602)

400 &lt;223&gt; OTHER INFORMATION: n = a, g, c or t/u

402 &lt;220&gt; FEATURE:

403 &lt;221&gt; NAME/KEY: misc\_feature

404 &lt;222&gt; LOCATION: (1232)..(1232)

405 &lt;223&gt; OTHER INFORMATION: n = a, g, c or t/u

407 &lt;400&gt; SEQUENCE: 12

```

408 tcaaaatcga agagcttttag acttgctaac cgccaaaaga gggggaacct gtttattttt 60
410 aggggaagaa tgctgttagt atgttaatca atctggaatc attactgaga aagttaaaga 120
412 aatttgagat cgaatataat gtagagcaga ggaccttcaa aacactgcac cctggggcct 180
414 cctcagccaa tggatgccct ggactctccc cttcttagga cctctagcag ctataatatt 240
416 ttactcttc tttggaccct gtatcttcaa cttccttggt aagtttgtct cttccagaat 300
418 tgaagctgta aagctacaaa tagttcttca aatggaaccc cagatgcagt ccatgactaa 360

```

RAW SEQUENCE LISTING ERROR SUMMARY      DATE: 11/10/2005  
PATENT APPLICATION: US/09/319,156C      TIME: 13:04:57

Input Set : A:\103514-mlm-11-05.ST25.txt  
Output Set: N:\CRF4\11102005\I319156C.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:5; Xaa Pos. 26  
Seq#:10; Xaa Pos. 39  
Seq#:12; N Pos. 594,602,1232  
Seq#:13; Xaa Pos. 26,42,46  
Seq#:40; N Pos. 1240,1246

**VERIFICATION SUMMARY**

DATE: 11/10/2005

PATENT APPLICATION: US/09/319,156C

TIME: 13:04:57

Input Set : A:\103514-mlm-11-05.ST25.txt

Output Set: N:\CRF4\11102005\I319156C.raw

L:94 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:16  
L:261 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:32  
L:426 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:540  
L:428 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:600  
L:448 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:1200  
L:482 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:16  
L:486 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:32  
L:1233 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40 after pos.:1200